

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2004/002606

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 H01L 33/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L H01S

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean Patents and applications for inventions since 1975
Korean Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKIPASS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/195606 A1 (CREE INC.) 26 DECEMBER 2002 see the whole document	1-37
A	WO 98/31055 A1 (NICHIA CHEMICALS IND. LTD.) 16 JULY 1998 see the whole document	1-37
A	WO 02/103814 A1 (CREE INC.) 27 DECEMBER 2002 see the abstract, figure 2	1-37
A	JP 8-264894 A (TOSHIBA CORP.) 11 OCTOBER 1996 see the full text, figure 1	1-37
X	KR 2002-79659 A (EPIVALLEY CO., LTD.) 19 OCTOBER 2002 see the abstract, figure 3	38
E, X	KR 2004-42311 A (EPIVALLEY CO., LTD. & SAMSUNG ELECTRO-MECHANICS CO., LTD.) 20 MAY 2004 see the abstract, figure 3	38

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search

18 JANUARY 2005 (18.01.2005)

Date of mailing of the international search report

19 JANUARY 2005 (19.01.2005)

Name and mailing address of the ISA/KR



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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

- I. Group 1 : Claims 1-37 are directed to an LED in which clstuters (or strain-controlling layers) are introduced at least on a first cotact layer.
- II. Group 2 : Claim 38 is directed an LED in which an n-typed second contact layer is formed on a p-typed clad layer.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any addition fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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International application No.

PCT/KR2004/002606

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002/195606 A1	26.12.2002	CA 2441310 AA WO 2002097904 A2 US 2003006418 AA TW 544952 B EP 1401027 A1 WO 2002097904 A3 EP 1390990 A2	05.12.2002 05.12.2002 09.01.2003 01.08.2003 24.03.2004 20.02.2003 25.02.2004
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KR 2004-42311 A	20.05.2004	NONE	